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NEW FORMS OF SPHINGIDÆ.

BY J. J. JOICEY, F.E.S., F.L.S., ETC., AND G. TALBOT, F.E.S.

THE types of the forms herein described are in the Hill Museum. We are obliged to Dr. K. Jordan for his valued opinion on forms 1-5. Figures of these forms will be published when opportunity permits.

1. Oxyambulyx ceramensis, sp. nov.

Allied to *wildei*, Misk., from Australia and New Guinea, but distinguished by the larger rounded sub-basal spot on the forewing and the more strongly marked underside. May only be a race.

 \Im \Im . Upper side with the coloration of *wildei* but somewhat darker. Fore wing with a very large sub-basal spot. The sub-marginal line below vein 3 farther from the margin than in *wildei*. The sub-apical line from costa to sub-marginal line strongly marked. Hind wing with discal line more heavily marked than in *wildei*, the anal patch darker, and marginal line more strongly developed and much darker. Underside with darker markings than in *wildei*, and sub-marginal line of fore wing further from the margin. Hind wing with markings as above. Head, thorax and abdomen with the same coloration and markings as in *wildei*.

Length of fore wing: 351 mm., 957 mm.

Hab.—Mount Manusela, Central Ceram, 6000 ft., October-December, 1919, C., F. & J. Pratt, 1 3, 1 2.

2. Clanis pratti, sp. nov.

Named after Mr. James Pratt, the youngest of the three brothers who collected in Ceram, and whose first collecting trip it was.

Allied to *bilineata*, Walk. Distinguished by the distinct *triangular* costal patch of the fore wing and the absence of any chocolate-brown coloration on the hind wing. Fore wing broader, outer margin not incurved.

3. Upperside of fore wing darker ochreous then in *bilineata*. Triangular costal patch grey-white suffused with pinkisli, sharply defined, outer edge longer than it is in *bilineata* and crossing vein 7 beyond its point of origin. Outer crenulate post-discal line farther from the margin than in *bilineata*, the inner line not defined above vein 6. Hind wing dusky ochreous, blackish basally, and paler at the

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margins. A slight lilac suffusion at the anal angle. Underside slightly darker than in *bilineata*. Fore wing with shorter black stripe below the cell, apical patch grey white, faintly pinkish. Hind wing with the outer two post-discal lines less distinct and becoming obsolete posteriorly.

Length of fore wing : 64 mm.

Hab.—North Manusela, Central Ceram, 2500 ft., March, 1919, C., F. & J. Pratt, 1 3.

This specimen was bred from a larva brought in by natives. "For about two weeks it barely moved, making no attempt to eat or search for food. On December 30th we put it in a box with earth. It immediately burrowed, and did not cast its skin until early in February. The imago emerged on March 5th."

The larva is briefly described by Messrs. Pratt as follows: "The larva is green with five lateral ridges the whole length of the body. It is covered with tiny protuberances, forming a rasping surface."

Pupa.—The pupa-case was sent and may be described as follows: It is 60 mm. in length and 17 mm. in diameter at the wing-cases. Proboscis sheath reaching about to the tip of the wing-cases. The eighth and ninth segments show a slight and broad protuberance on the ventral side. The cremaster is broadly triangular, 3 mm. at the base and 2 mm. long.

3. Clanis hawkeri, sp. n.

Quite distinct from any other in the genus. Fore wing with apex not pointed, outer margin slightly rounded. The palpi are smaller and shorter than in other species, and the second segment is more concave. The hind wing has the discocellulars more oblique. We hesitate to make a new genus for this species, though it may possibly be distinct, but further material of this or other species with similar characteristics is desirable.

 \mathcal{J} . Upper side of fore wing vandyke brown, with oblique transverse bands of darker brown with grey-white discal and basal suffusion A sub-basal line, a second line crossing the wing at vein 2, both edged with grey white on the inside; a discal line crossing the wing at origin of vein 3, broader in cellule 2 and not reaching the submedian; a post-discal line, strongly marked from the origin of vein 6 to vein 4, where it curves inward and is indistinct to the submedian ; a second post-discal line, less distinct, from base of cellule 6 to vein 4, and bordered with a grey-white suffusion on each side; a heavily marked sub-apical band, anteriorly broad at vein 7, and reaching vein 5. These lines or narrow bands are not well defined and are diffuse on their edges. An indication of greyish longitudinal stripes in cellules 2-4. Hind wing dull red brown, with a marginal border of grey brown, darker anteriorly. Inner margin creamy white. Underside of forewing pale ochreous brown, the basal half red brown like the hind wing above. Distal margin grey white with a pink tinge, this colour produced as narrow stripes in cellules 2-5. The outer three bands of the upper surface are faintly marked. The apex is reddish brown. Hindwing pink irrorrated with grey white more especially in the basal half and on inner margin. A thick, slightly curved discal line of darker red between veins 8 and 3; a more faintly marked dentate sub-marginal line from costa to anal angle, slightly angled at vein 5. Antennæ dirty grey. Head blackish brown, greyish at the sides. Palpi with outer part of second and third segments blackish brown, inner half of these segments and segment 1 chocolate brown. Collar blackish brown. Patagia vandyke brown irrorated with grey white. Abdomen grey brown above, below paler tinged with pink. Segments above darker at the base and narrowly ringed with golden orange. Pectus grey white, tinged with pink. Fore- and mid-femora grey white tinged with pink, tibiæ and tarsi blackish brown. Posterior femora and tibiæ grey white tinged with pink.

Length of fore wing : 26 mm.

Hab.-French Indo-China, 1 3.

4. Pachygonia ribbei peruviana, sub-sp. nov.

Pachygonia ribbei, Druce, Biol. Cent. Amer., Het., 1, p. 4, pl. i, f. 2 (1881) (Chiriqui).

 σ . Differs from typical *ribbei*, Druce, in the darker brown coloration of the upper surface, especially of the hind wing, where, however, the lines are more distinct. The underside is more ochraceous than in the typical form and the post-discal line of the fore wing is narrower.

Hab.—Rentema Falls, Upper Maranon, N. Peru, 1000 ft., A. E. Pratt.

5. Nephele leight, sp. nov.

Distinct from any other known form in the genus, but resembling *æquivalens*, Walk., in the absence of black patches on the abdomen. The hind tarsi are, however, shorter than in this species.

Upperside with ochreous-brown ground-colour. Fore wing in basal lower part dark greenish ochreous. An oblique darker brown discal band, not very distinct; a similar post-discal band, anteriorly broader and ill-defined, slightly angled at vein 3; an irregular faint post-discal line. A very irregular sub-marginal line marking off a darker distal area which is evident in cellules 4 and 5; a second submarginal line divides the narrow ochreous-brown marginal from the inner blackish-brown area, which is slightly dusted with grey. Hind wing dark greenish ochreous; distal margin deep brown, narrowing posteriorly. Underside paler ochreous brown. Fore wing with the dark marginal area well marked. Hind wing with three not strongly marked discal lines, the middle one about midway between the others, and only distinct to the submedian. Head, palpi and pectus grey as in *æquivalens*. Antennæ grey white above, brown below. Thorax dark greenish ochreous. Abdomen pale ochreous without markings. Legs pale ochreous.

Length of fore wing : 41 mm.

Hab.-Mahe, Seychelles; G. F. Leigh, 1913, 1 2.

We have taken the liberty of naming this after Mr. Leigh, who collected in the Seychelles in 1913 on behalf of Mr. Joicey.

6. Theretra clotho manuselensis, subsp. nov.

Distinguished from the typical form by the post-discal line of the fore wing being incurved to the costa near the apex.

 $\mathcal{J} \mathcal{Q}$. Post-discal line of fore wing incurved near apex, forming a sharp angle with a short oblique line from the costa. This is more strongly marked in female specimens. The underside ground colour is more reddish than in the typical forms. Abdomen with black basal patch reduced in the majority of specimens.

Described from a long series from Mount Manusela, Central Ceram, 6000 ft., October-December, 1919, C., F. and J. Pratt.

7. Theretra clotho papuensis, subsp. nov.

This form may have something to do with *incarnata*, R. & J., regarded from the point of view of colour, but as we are unable to find any factor pointing to specific distinction from *clotho*, we prefer to treat the form as a race of that species. A study of the genital armature of *clotho* and the allied forms is necessary to clear up the obscurity surrounding these at present.

The form *celata*, Butl., was regarded by Rothschild and Jordan as a race of *clotho*. It is of interest to record the existence of this form on Ceram and in Dutch New Guinea in company with *clotho*. This suggests that *cclata* is a distinct species.

3 \mathfrak{P} . More nearly allied to the Ceram form than to the typical one. The black abdominal basal patch is obsolete or absent. Fore wing either dull greenish grey or pinkish testaceous, in the former case with much paler more greyish sub-basal and distal area. The dark oblique line is mostly separated from the apical line and is joined to a short costal line as in the Ceram form. Pale discal lines obsolete or absent. Hind wing anal patch more pinkish than in typical form. Underside pinkish grey thickly speckled with black. Fore wing with black basal area washed with grey, distal marginal area only slightly paler than the ground-colour. Hind wing with discal lines not clearly defined. Legs and underside of body more pinkish than in the other forms.

Hab.—Wandammen Mountains, Dutch New Guinea, 3000–4000 ft., November, 1914, A., C. & F. Pratt, 6 3 3, 4 \Im \Im ; 6000 ft., 1 \Im .

8. Cechenea helops interposita, subsp. nov.

This form presents the characteristics of the typical form on the upper side, but is more like *papuana*, R. & J., below.

 \mathcal{F} \mathcal{G} . Upperside coloration and markings as in the typical form. Fore wing with fringes as in typical form, black basal patch

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more extended along the margin. Hind wing with anal patch sharply defined on the outer edge, between which and the margin there is no pale scaling. Underside with the pinkish-ochraceous coloration of *papuana*. Fore wing with costal spot joined to a large apical patch continued to vein 6 as a heavy curved spot, which encloses a small marginal spot of ground-colour. Hind wing with distal dark marginal band broader than in the typical form but less so than in *papuana*. Discal band broader than in typical form. The anterior femora with blackish-grey hair as in *papuana*. The second and third dorso-basal abdominal grey patches smaller than in the other two forms. No sharply defined pale lateral patch on segments 4 and 5.

Hab.—Mount Mansuela, Central Ceram, 6000 ft., October– December, 1919, C., F. & J. Pratt, 5 33, 7 9 9.

NOTE ON CHANGE IN SYNONOMY.

Cechenca sumatrensis, Joicey & Kaye, Ann. and Mag. Nat. Hist. (8), xx, p. 307 (Sumatra), 1917.

This species has been examined by Dr. K. Jordan, who pronounces it to be a specimen of *Theretra boisdurali*, Bugn.!

Timoria concolorata, Kaye, Ann. and Mag. Nat. Hist. (9), iv, pp. 93-94 (Tenimber), 1919.

The genus *Timoria* was described as new, but both must sink to *Heise luctifera*, Walk.

We are obliged to Dr. K. Jordan for this correction.

FOSSIL TIPULIDÆ FROM THE OLIGOCENE OF THE ISLE OF WIGHT.

BY T. D. A. COCKERELL AND F. H. HAINES.

(Continued from p. 84.)

Limnophila cyclospila, n. sp.

Wing about 7 mm. long and 2.5 mm. broad, R_1 ending on costa at about level of end of discal cell; præfurca arising a short distance before middle of wing, running rather close to subcosta; second and third veins (branches of R) separating normally, the second twobranched, forming a very long cell with a very short petiole, the first submarginal being thus a little shorter than the second. A crossvein from near end of R_1 to second vein (R_2) , the first marginal cell longer than the second; discal cell unusually high, subquadrate, the basal corners approximately rectangular, the apex emitting three veins, the first forked, the fork somewhat longer than the stem, the second rather nearer to the first than to the third. Second basal cell much longer than first, its apex not far from the end of discal cell. Anal area reduced ; axillary vein straight and close to margin. Wing yellowish with dark fuscous spots; elongate spots near base in costal, second basal, and first anal cells; three round spots successively larger and further apart on upper part of wing, the first above the light